E.f. Mail Label E V36539554945

Method for processing metadata

Field of the invention

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The present invention relates to a method for processing
multimedia data by providing metadata including metadata es-
sence data representing information, which is directly per-
ceptible by a user, and/or metadata link data directly or
10   indirectly pointing to further essence data and providing a
memory for storing essence data. Furthermore, the present
invention relates to a correspondig device for processing
multimedia data.

Background of the invention

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Multimedia data includes essence data like text, pictures,
videos and audio samples which are directly perceptible by a
user. Moreover, multimedia data includes metadata which pro-
20   vides further information as to those essence data to which
the metadata is linked. Additionally the metadata may pro-
vide linking information describing the linkage to other es-
sence data.

25   The metadata may be collected in a metadata database. Such
metadata database should be cleaned regularly. Usually those
metadata, which are not utilized as index information for
essence any more, should be deleted. However, sometimes,
though some metadata are not utilized as index information
30   of essence, they are still used by other metadata. For in-
stance, other metadata may still direct to this metadata. In
this scenario this metadata acts only as essence.

Summary of the invention

In view of that it is the object of the present invention to
provide a method and a device for making easier the process
5   of cleaning a metadata database.

According to the present invention this object is solved by
a method for processing multimedia data including the steps
of providing first metadata including first metadata essence
10   data representing information, which is directly perceptible
by a user, and/or metadata link data directly or indirectly
pointing to further essence data and providing a memory for
storing essence data, as well as converting said first meta-
data essence data and/or said further essence data being di-
15   rectly or indirectly pointed at by said metadata link data
into new essence data and storing and providing said new es-
sence data in said memory.

Furthermore, according to the present invention there is
20   provided a device for processing multimedia data including
first storing means for providing first metadata including
first metadata essence data representing information, which
is directly perceptible by a user, and/or metadata link data
directly or indirectly pointing to further essence data and
25   second storing means for storing essence data as well as
converting means for converting said first metadata essence
data and/or said further essence data being directly or in-
directly pointed at by said metadata link data into new es-
sence data, wherein said converting means is interconnected
30   between said first storing means and said second storing
means so that converted essence data are storable in said
second storing means.

By applying the above method or device it is possible to
35   keep a metadata database clean by saving the selected meta-
data as essence. The content of the new generated essence
does not have to be based only on metadata essence of se-

lected metadata, but also on other content-coherent essence or metadata which is directed by a metadata link of the selected metadata.

5 The convertion of metadata essence data and/or further essence data being directly or indirectly pointed at by said metadata link data into new essence data may be performed with the help of a graphical user interface, which makes editing of the new essence data comfortable.

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The further essence data the metadata link data are pointing at may be included in second metadata as second metadata essence data. Thus, essence data of several metadata may be joint for new essence data.

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The convertion of metadata into essence data is preferably performed by transferring essence data of the metadata into a new essence data file. Such a transfer without format transformation enables rapid processing.

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The metadata essence data may include text, picture, audio and/or video information. These different information data may be combined in the new essence data or, alternatively, the new essence data may be formed by a single type of these
25 essence data.

Furthermore, third essence data may be added to the new essence data. This means, that not only two essence data can be combined to the new essence data but any number of dif-
30 ferent essence data included or not included in metadata may be combined to the new essence data.

Brief description of the drawings

35 The present invention will be explained in more detail in connection with the attached drawings, showing in:

Fig. 1   a basic method for convertion of metadata into es-
          sence according to the present invention; and

5   Fig. 2   an advanced method for convertion of metadata into
          essence according to the present invention.

Detailed description of prefered embodiments

10 In the following, embodiments of the present invention are
    presented. Metadata consists of two parts:

    Metadata-essence (MD-essence) and metadata-link (MD-link).
    MD-essence is a part of a metadata, which is designed to be
15 human understandable or perceptible and which serves as the
    proxy by which the metadata will be presented to the user in
    any user interface of systems employing metadata. In con-
    trast to this, MD-link is a part of metadata, which links to
    essence or other metadata, so that MD-link forms a logical
20 part of the metadata.

    Generally, the task of convertion of metadata into essence
    is to convert MD-essence of metadata into essence. As shown
    in a first embodiment of the present invention according to
25 figure 1 the basic method for convertion metadata 1 into es-
    sence 4 includes the transfer of MD-essence 2 into this es-
    sence 4. The procedure is operated under a graphic user in-
    terface (GUI) 5.

30 Several MD-essences 2 of a plurality of metadata 1 may be
    transferred to the same essence 4 by employing the above de-
    scribed method. Thus, a lot of metadata may be deleted in
    order to clean the metadata database without loosing essence
    data of interest.

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    As indicated in figure 1 by the different types of arrows
    the GUI 5 browses or selects the metadata 1 within the meta-

data database. Further, the GUI 5 together with a processor
(not shown) processes the information obtained from the
metadata 1 and provides a file for storing the new essence
4. After that the MD-essence 2 is taken over into the file
5   of the new essence 4. In some cases it may be necessary to
complete the new essence formed by the MD-essence 2. For in-
stance, if the MD-essence 2 is a compact annotation or sum-
mary, it might be extended in order to generate a complete
significant essence. Therefore, there is provided an ad-
10   vanced method as shown in figure 2 in order to convert meta-
data into such complete significant essence. Similar to the
basic method of figure 1 the metadata selected by the GUI 5
are converted into the new essence 4. Thus, at first, the
MD-essence 2 is transferred into essence 4. The MD-essence 2
15   may be a text, a picture, an audio presentation or a video
clip or the like. Since the MD-essence 2 in this case only
provides a limited compact message it should be completed to
a meaning full essence 4. Therefore, it is desired to find
out other content-associated sources to supplement the new
20   created essence 4.

In order to find further essence being closely content-
coherent with the selected metadata 1 the MD-link 3 is used
as a first hint. The MD-link 3 may point to an essence 6
25   like a movie or other metadata 7. The user may select es-
sence 6 by employing the GUI 5 so that the complete essence
6 or a part of it is added to essence 4. Additionally or al-
ternatively the user can select a metadata 7 as a source for
supplement material to essence 4. By a simple editing proc-
30   ess the user can add MD-essence 8 from metadata 7 as addi-
tional content to essence 4. If the user decides that the
essence 4 is not yet complete he can use MD-link 9 of meta-
data 7 to find more content correlated information. For this
the user can select further essence 10 and/or further meta-
35   data 11 on the basis of MD-link 9 by employing the GUI 5.
Again, the corresponding essences 10 or 12 may be edited or
transferred to essence 4, respectively.

Such further metadata 11 also includes a MD-link 13 pointing
to other sources of information. Thus, the user can repeat
the above step of selecting further data on the basis of a

5 MD-link. In this way a user will look for further informa-
tion to obtain a complete essence 4. The whole process is
operated under the GUI 5.

As a plurality of essences and MD-essences of several meta-

10 data can be summarized by such a process in a new essence
file, the corresponding original metadata may be deleted
from a metadata database. Similarly, essences may be removed
from essence data bases if summarized in the new essence
file. This means that the above process is a powerful tool

15 to clean metadata databases or essence data bases.

In the following a concrete example for applying the inven-
tive process shall be given. A metadata which includes a
picture of Eiffel Tower as its MD-essence 3 is frequently

20 used by other metadata as representative image of Paris. On
the basis of MD-links 3 of this metadata 1 other metadata
showing other representative scences of Paris may be found.
Now the user wants to convert the plural metadata into a new
essence. At first, the user may simply convert the picture

25 of Eiffel Tower into a picture essence. Next, the user may
utilize the above described advanced method to look for
other Paris associated materials with the help of the MD-
links of metadata 1. For example, through link connection
the user may find other pictures of famous scenes of Paris

30 such as photos of Arc de triomphe, Notre Dame, Musée du Lou-
vre and so on. The user may make use of all these represen-
tative pictures of Paris to create a new essence 4 which
consists of a group of representative pictures of Paris.
Based on these pictures of the new essence 4 the user may

35 make a slight show of Paris.

As indicated above, the inventive method for creating new essence data also can be used for "fighting metadata garbage". This means, that the selected metadata which is no longer utilized as metadata can be converted into essence.

5 Any metadata links that have originally directed to the selected meta data are still valid and they may now direct to the new created essence.